

# SpaceFibre Discussion

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SpaceWire Steering Committee Meeting  
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# SpaceFibre Future Missions

- Currently NASA has no planned missions using SpaceFibre
  - Orion (CEV) has selected AS5643 (1394b)
    - No backup plan to AS5643 exists
- DOD has satellite missions with performance requirements that would require a data bus similar to SpaceFibre
  - Data rate in Gigabit range
- NASA has supplied money to develop SpaceFibre
  - 0.1 Full Time Equivalent (FTE) for FY07

# Proposed Additional High-Level Requirements

- Compatible with AS5643/1 being developed for Orion (CEV)
  - Defines physical layer only
  - SAE Aerospace Standard
  - Active transformers for longer distances
  - S400 Copper Media Interface Characteristics over Extended Distances
- Compatible with speed options of AS5643
  - S100, S200, S300, S400, S800, S1600, S3200
  - Can allow option for alternative rates as well?

# Trades

- The high level trade study presented at 2006 MAPLD
- Many lower level trades - examples:
  - Coding definition
  - Initialization sequence
    - Continuous bit stream?
    - Control code types
    - Definition flow control
    - How to synchronize state of receivers descrambler with the state of remote transmitter's scrambler?
    - Power management
    - Speed negotiation
    - Etc.
  - Frame types
  - Frame size
  - Error detection coding
  - Error recovery
  - Scrambling polynomial
  - Etc.

## Next Steps?

- Should we create separate working group for SpaceFibre to share ideas and develop concept?
  - Monthly?
  - Bi-weekly?
  - Proposed meeting time
    - 15:00 Europe/Amsterdam - 9:00 U.S/Eastern
  - U.S. Industry and other government agencies would like participate